

REMARKS

The Office Action of May 11, 2010 and the references cited therein have been carefully reviewed. Favorable reconsideration and allowance of the claims are requested in view of the foregoing amendments and the following remarks.

I. Claim Status and Amendments

Claims 23-25 were pending in this application when last examined. Claims 23-25 have been examined on the record and stand rejected. Claims 26-28 have been withdrawn from consideration as being drawn to non-elected subject matter. No claims have been allowed.

By way of the present amendment, independent claim 23 has been amended to specify 0.1 to 2 μm as the thickness for the nickel-cobalt-phosphorous alloy and 0.2 to 3 μm as the thickness for the nickel layer outermost layer. Support can be found throughout the general disclosure, see for example, the paragraphs bridging pages 7 and 8 and pages 10 and 11 of the original disclosure. No new matter has been added.

Claims 23-28 remain pending upon entry of this amendment, and these claims define patentable subject matter warranting their allowance for the reasons discussed herein.

II. Obviousness Rejection

Starting with item 3 on page 2 of the Office Action, the Examiner has maintained the rejection of claims 23-25 under

35 U.S.C. §103(a) as being obvious over Hirofumi (US 5,576,113) in view of Omura (JP 02-129395A) and Younan (Journal of Applied Electrochemistry, 32: 439-446 (2002)). The Examiner's reasons for maintaining the rejection are set forth in items 4-8 on pages 4-6. The rejection is respectfully traversed for the same reasons set forth in the response filed January 29, 2010, which arguments are reiterated herein by reference, and for the following reasons.

To start, as argued in the last response, the main reference of Hirofumi fails to disclose or suggest the arrangement of the various layers in the surface treated sheet for a battery case of main claim 23. The Examiner acknowledges that Hirofumi does not disclose "a diffusion layer of a nickel-cobalt-phosphorus alloy formed as an uppermost layer at said one of said two surfaces to be used as the inner surface of the battery case" as required in claim 23. See the second paragraph from the bottom of page 3 of the Office Action. The Examiner relies on Omura and Younan as allegedly teaching the missing feature of Hirofumi. Applicants respectfully disagree and submit that Omura and Younan fail to disclose or suggest that for which they are being offered. It is further submitted that Hirofumi teaches away from this combination.

In the paragraph bridging pages 3 and 4, the Examiner again argues that Omura discloses forming an upper layer of a

nickel-phosphorus alloy on at least one side to produce a sheet with high hardness and excellent in flaw resistance, workability and corrosion resistance. However, it is again respectfully submitted that this disclosure of a nickel-phosphorus alloy in Omura is not a disclosure or a suggestion of a nickel-cobalt-phosphorus alloy, let alone one formed as an uppermost layer at said one of said two surfaces to be used as the inner surface of the battery case.

Moreover, it is again submitted that Hirofumi cannot be combined with Omura and Younan to arrive at the claimed subject matter, because Hirofumi teaches away from the concept of the placing a nickel-cobalt-phosphorus alloy layer as the uppermost layer (as required in the main claims). As argued in the last response, Hirofumi at columns 25 and 26 discloses that a sheet, to be formed into a battery can, is comprised of Ni plated layers formed on an upper and lower surface of the steel plate. As such, it is clearly essential in Hirofumi to place the Ni plate as the uppermost layer, not a nickel-cobalt-phosphorus alloy layer, as required in claim 23. There is no disclosure in Hirofumi to do otherwise. If Hirofumi had contemplated to place a nickel-cobalt-phosphorus alloy layer as the uppermost layer (which it did not), then Hirofumi would have stated so. But, Hirofumi did not do so. As Hirofumi only teaches that the Ni plate must be used as the uppermost layer, not a nickel-cobalt-

phosphorus alloy layer, it must be concluded that the reference teaches away from the concept of placing a nickel-cobalt-phosphorus alloy layer as the uppermost layer (as required in claim 23).

Yet, the Examiner disagrees with the above argument on the grounds that no evidence has been provided to support this position, and the argument does not negate the alleged fact that one of ordinary skill in the art would readily appreciate that a Ni-Co-P layer placed on either a nickel, or a nickel-iron, coated steel-sheet improves the hardness and corrosion-resistance of the nickel.

Applicants respectfully disagree. All the evidence that is needed to support the conclusion that Hirofumi teaches away from the claimed invention can be found at columns 25 and 26 of Hirofumi. Again, at this location, Hirofumi only discloses that Ni plate is as the uppermost layer. Nowhere does Hirofumi disclose or suggest otherwise, let alone using a nickel-cobalt-phosphorus alloy layer as the uppermost layer. The Examiner's position overlooks this express disclosure in Hirofumi that teaches away from the claims. No extraneous evidence should be needed to support this express disclosure in Hirofumi that would lead away from combining Hirofumi with the remaining references in the manner set forth by the Examiner.

In addition, please note that main claim 23 has been amended to further structurally distinguish the claimed surface treated steel sheet over the teachings in the cited references. In this regard, the specification at various locations mentions the importance of the thickness of the various layers (e.g., 0.1 to 2 μm for the nickel-cobalt-phosphorous alloy - the paragraph bridging pages 10-11; and 0.2 to 3 μm for the nickel layer outermost layer - the paragraph bridging pages 7-8). Accordingly, claim 23 has been amended to specify 0.1 to 2 μm as the thickness for the nickel-cobalt-phosphorous alloy and 0.2 to 3 μm as the thickness for the nickel layer outermost layer. It is believed that neither Hirofumi, nor Omura, nor Younan disclose or suggest the claimed thickness of the layers. For this reason alone, the obviousness rejection over Hirofumi, Omura, and Younan is untenable and should be withdrawn.

Lastly, in maintaining the obviousness rejection, the Examiner (item 6 on page 5) contends that Applicant's claims are drawn to a surface treated steel sheet for a battery case, not a battery, and thus, arguments regarding excellent battery performance do not appear to be applicable. The Examiner argues that the features upon which Applicant relies (i.e., battery performance and a deep draw forming method) are not recited in the rejected claims.

In reply, Applicants submit that such arguments are applicable because the claimed surface treated steel sheet is the essential factor needed to achieve the battery performance, and such a battery is obtained through the use of the sheet.

For these reasons, no combination of the cited references would arrive at each and every element of the claims. Accordingly, main claims 23 and 26, and all claims dependent thereon, are believed to be novel and patentable over the combination of Hirofumi, Omura, and Younan. Thus, it is clear that the combined references fail to render obvious the claims. Withdrawal of the rejection is requested.

Applicants would appreciate an opportunity to interview the Examiner to discuss this case further in order to expedite prosecution, and request that the Examiner briefly delay issuing another Action until an interview can be arranged.

III. Conclusion

Having addressed all the outstanding issues, the amendment is believed to be fully responsive to the Office Action. It is respectfully submitted that the claims are in condition for allowance, and favorable action thereon is requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact the undersigned attorney at the telephone number below.

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Respectfully submitted,

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